

A NEW SPECIES OF *HEXIDIONIS*
(ACARINA, TROMBICULIDAE)
FROM KANGAROO RATS (GENUS *DIPODOMYS*)
OF WESTERN NORTH AMERICA

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ABSTRACT: *Hexidionis harveyi*, n. sp. is described from larvae taken off the kangaroo rats *Dipodomys m. merriami* from 15.3 km SW Agua Prieta, Sonora, Mexico and *Dipodomys s. spectabilis* from 4.8 km S Animas, Hidalgo Co., New Mexico. It is similar to *Hexidionis doremi* (Brennan and Beck).

INTRODUCTION

Studies of chiggers taken from rodents of Sonora, Mexico and adjacent states have revealed a new species of chigger which belongs to the genus *Hexidionis* Vercammen-Grandjean and Loomis (1967). It closely resembles *Hexidionis doremi* (Brennan and Beck), a chigger known from southern Utah, Arizona, California and Sonora, Mexico.

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In the description below all measurements are in microns, and the terminology follows that of Wharton, *et. al.* (1951).

It is our pleasure to name this new species after Dean E. Harvey of California State College, Long Beach, who collected the type host as well as numerous other vertebrates from which chiggers have been recovered.

Hexidionis harveyi, new species

Figure 1

Types. — Larvae, holotype and 13 paratopotypes from 15.3 km southwest of Agua Prieta, Sonora, Mexico, elevation 1260 m, from two *Dipodomys merriami merriami* Mearns (Merriam's kangaroo rat) taken 9 July 1965 by Dean E. Harvey, original numbers DEH650709-3 (holotype and 10 paratopotypes) and DEH650709-4 (3 paratopotypes). The holotype and one paratopotype will be deposited in the

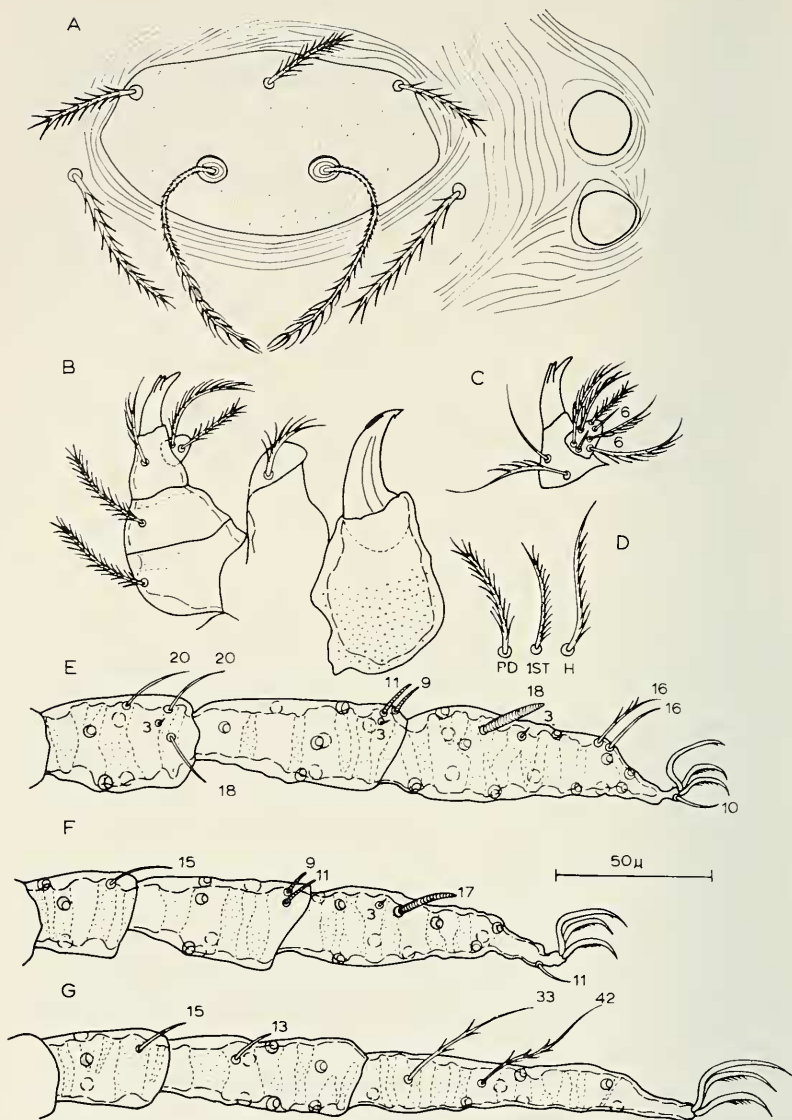


Figure 1. Larva of *Hexidionis harveyi*, n. sp. A. Scutum and eyes. B. Gnathosoma, dorsal aspect. C. Palpotibia and tarsus, ventral aspect. D. Body setae (left to right): posterior dorsal, first dorsal and humeral. E. Leg I, showing specialized setae with measurements in microns. F. Leg II, as above. G. Leg III, as above.

Rocky Mountain Laboratory, Hamilton, Montana, and other paratopotypes, now at California State College, Long Beach, will be distributed to appropriate institutions.

Diagnosis. — Similar to *Hexidionis doremi* in having three genualae I with the distance between the dorsal genualae less than between distal dorsal and lateral genualae; legs elongate with several bands in tarsi; sensilla branched; differing from *H. doremi* in having lateropalpotibial seta nude and with PL setae off scutum, and different dorsal body setal formula.

Description of Holotype. — Body: Partly engorged, 684 by 446, color in life orange; eyes 2/2, approximately equal in size, ocular plate indistinct.

Dorsal setal formula 2 (humeral)—2—6—6—6, plus 8, total 30. Measurements: humeral seta 38; seta of first posthumeral row 34.

Ventral setal formula 2—2, plus 18 preanal and 8 postanals, total 30. Measurements: first sternal seta 38, posterior ventral seta 29.

Scutum: Shape subpentagonal, with rounded posterior margins and numerous puncta. Sensilla with approximately 20 branches on distal half. PL seta separated by 12 microns (3 to 7 striae) from scutal plate (Figure 1A).

Scutal measurements of holotype and (in parentheses) the mean and extremes of 14 types unless otherwise noted: AW 76 (76, 72-82), PW 105 (98, 87-109), SB 31 (31, 28-35), ASB 29 (29, 27-32), PSB 22 (22, 17-25), AP 28 (28, 25-32), AM 35 (35, 33-36, 10), AL 32 (29, 25-35), PL 49 (51, 48-54), S 82 (80, 76-84, 8).

Gnathosoma: Cheliceral blade with dorsal tricuspid cap and prominent ventral tooth; cheliceral base and capitular sternum punctate. Galeala branched. Palpal setal formula B/B/BNB; palpotibial claw trifurcate.

Legs (specialized setae as follows): Leg I with 3 genualae, microgenuala; 2 tibialae, microtibiala; tarsala (18), microtarsala, subterminala, a branched seta adjacent to subterminala, and pretarsala. Leg II with genuala, 2 tibialae, tarsala (17), microtarsala, and pretarsala. Leg III with genuala, tibiala, and 2 mastitarsalae with several basal barbs. Each leg terminating in 2 claws bearing 4 to 6 onychotriches and a clawlike empodium with one onychotrich (Figure 1 E-G).

Leg measurements, holotype, and (in parentheses) mean and extremes of 14 types: Leg I 345 (348, 330-388), Leg II 324 (313, 283-353), Leg III 347 (356, 341-385), Total legs 1016 (1030, 965-1111).

Remarks. — Although *Hexidionis harveyi* has PL setae off the scutum it closely resembles and belongs to the *doremi* group which includes *H. doremi*, *H. breviseta* (Loomis and Crossley), and *H. poly-*

technica (Hoffmann). See Lucas and Loomis (1968) for a key to the species of *Hexidionis*.

The type host kangaroo rats were captured at an abandoned rock quarry where the extremely rocky substrate supported a few *Acacia* sp. and Ocotillo (*Fouquieria splendens*). Larvae of *H. harveyi* were not found on *Dipodomys merriami* trapped in an adjacent sandy wash covered by creosote bush association. The known localities are in the desert-grassland of the Upper Sonoran Life Zone (Lowe, 1964).

Specimens examined. — Total 20 larvae: MEXICO, Sonora, (14, type series); 9.7 km S Agua Prieta, *Sylvilagus audubonii*, 9 July 1965 (1). USA, NEW MEXICO, Hidalgo Co., 4.8 km S Animas, *Dipodomys s. spectabilis*, 30 Aug. 1968 (5).

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